

What is claimed is:

1           1.       A washing machine having a sensor unit installed with respect to an outer tub  
2       for holding water, the washing machine comprising:

3               a microcomputer having an input port receiving an applied voltage, the input port  
4       electrically connected to a supply voltage;

5               first and second electrodes, installed so as to be submerged in the water of the outer  
6       tub, wherein said first electrode is electrically connected to the supply voltage and said second  
7       electrode is electrically connected to ground, to thereby generate the applied voltage for input  
8       to the input port of said microcomputer;

9               a spherical conductor disposed adjacent to said electrodes; and

10              support means for supporting said spherical conductor.

1           2.       The washing machine as claimed in claim 1, wherein said first and second  
2       electrodes are installed such that a predetermined gap is maintained between said electrodes,  
3       to measure a contaminant in the water of the outer tub.

1           3.       The washing machine as claimed in claim 2, wherein an electrical short is  
2       created between said electrodes by a displacement of said spherical conductor when a state of  
3       imbalance exists in the washing machine.

1           4.       The washing machine as claimed in claim 1, wherein said support means has  
2       opposing sides for supporting said spherical conductor, the opposing sides being inclined at a  
3       predetermined angle, and wherein said spherical conductor rests within said support means

- 4 while the washing machine is in a balanced state and is displaced by a state of imbalance.